

The Examiner has objected to the word "said" being used in the Abstract. The Abstract has been amended to overcome this objection. Pursuant to 37 CFR 1.121, an amended substitute abstract page 17 is attached.

In the Claims:

Claims 1-2, 4 and 6 stand objected to for informalities. Claims 4-5 and 7 stand rejected under 35 USC 112, second paragraph as indefinite. Claims 1-3 stand rejected under 35 USC 103(a) as obvious in view of Odaira et al (US 5,333,379). Claim 4 stands rejected under 35 USC 103(a) as obvious in view of Odaira when read with Tokuda et al. (US 5,870,289). Claim 5 stands rejected under 35 USC 103(a) as obvious in view of Odaira when read with Koyama (US 6,254,758 B1). Claims 6-8 stand rejected under 35 USC 103(a) as being obvious in view of Odaira when read with Koyama.

Amend the claims 1 - 8; and add new claims 9 - 14 as follows. Pursuant to 37 CFR 1.121 these amended claims start on a new page.

1.(Amended) A process for manufacturing a wiring board, said process comprising the following steps of:

making a resin plate which has having wiring pattern recesses and via through holes using a pair of molds;

coating all of the surfaces of the resin plate including inner walls of said wiring pattern recesses and via through holes with a metal film;

~~applying an~~ electro-plating using said metal film as a power-supply layer over an entire surface of said metal film so as to fill a plated metal into said wiring pattern recesses and via through holes; and

~~polishing removing~~ said electo-plated metal film formed on said resin plate to remove the same except for inside regions ~~the inner walls~~ of said wiring pattern recesses and via through holes, so that said plated metal wiring pattern recesses and said plated metal vias are exposed on a surface the same as that of said resin plate.

2.(Amended) A process as set forth in claim 1, wherein said resin plate is formed by a press-forming process using a pair of press-forming molds.

3.(Amended) A process as set forth in claim 1, wherein said resin plate is formed by an injection molding process using a pair of injection molds.

4.(Amended) A process as set forth in claim 1 further comprising the following steps of:

forming pads as a part of said wiring pattern formed from said exposed plated metal recesses on one surface of the ~~wiring board~~ resin plate to which external connecting terminals are to be attached.

5.(Amended) A process as set forth in claim 1 further comprising the following steps of:

using said wiring board as a core
substrate; and
forming a resin layer on said core substrate; and
forming a wiring pattern on said resin layer in such a manner that said wiring pattern is connected to a wiring pattern formed from said wiring pattern recesses or to said vias of said core substrate ~~wiring patterns on the respective surface of the core substrate by means of resin layers to obtain a multi-layer wiring board.~~

6.(Amended) A process for manufacturing a multi-layer wiring board, said process comprising:

(a) manufacturing a core substrate comprising the steps of:

making a resin plate having wiring pattern recesses and via through holes using a pair of molds;

coating all of the surfaces of the resin plate including inner walls of said wiring pattern recesses and via through holes with a metal film;

~~applying an electro-plating using said metal film as a power-supply layer~~ over an entire surface of said metal film to fill a plated metal into said wiring pattern recesses and via through holes; and

polishing removing said plated metal film formed on said resin plate to remove the same except for inside regions ~~the inner walls~~ of said wiring pattern recesses and via through holes, so that wiring pattern and vias are exposed on a surface the same as that of said resin plate; and

(b) forming resin layers on respective surfaces of said core substrate so that said resin layers includes wiring pattern recesses and via through holes;

(c) coating all of surfaces of said resin layers including inner walls of said wiring pattern recesses and via through holes with a metal film;

(d) applying an electro-plating using said metal film as a power-supply layer over an entire surface of said metal film to fill a plated metal into said wiring pattern recesses and via through holes; and

(e) ~~polishing removing~~ said plated metal film ~~attached to~~ formed on said resin layer to remove same except for inside regions ~~the inner walls~~ of said wiring pattern recesses and via through holes, so that wiring pattern and vias are exposed on a surface same as that of said resin layer plate.

7.(Amended) A process as set forth in claim 6, wherein said resin plate layer is formed by a press-forming process using a press-forming mold.

8.(Amended) A process as set forth in claim 6, wherein said resin plate is formed by a injection molding process using an injection mold.

9.(New) A process for manufacturing a multi-layer wiring board comprising the following steps of:

(a) preparing a laminated body comprising at least one resin layer and at least one wiring layer laminated on said resin layer;

(b) forming said resin layer with wiring pattern recesses and via through holes using a mold;

(c) coating all of the surfaces of the resin layer including inner walls of said wiring pattern recesses and via through holes with a metal film;

(d) electro-plating using said metal film as a power supply layer over an entire surface of said metal film so as to fill a plated metal into said wiring pattern recesses and via through holes; and

(e) polishing said plated metal formed on said resin layer to remove the same except for inside regions of said wiring pattern recesses and via through holes, so that wiring pattern and vias are exposed on a surface same as that of said resin layer.

10.(New) A process as set forth in claim 9, wherein said resin layer is formed by press-forming process using a press-forming mold.

11.(New) A process as set forth in claim 9, wherein said resin layer is formed injection molding process using an injection mold.

12.(New) A process for manufacturing a multi-layer wiring board comprising the following steps of:

(a) preparing a multi-layer wiring board which is made in accordance with the steps as defined in claims 9;

(b) forming a second resin layer with wiring pattern recesses and via through holes using a mold;

(c) coating all of the surfaces of the second resin layer including inner walls of said wiring pattern recesses and via through holes with a metal film;

(d) electro-plating using said metal film as a power supply layer over an entire surface of said metal film so as to fill a plated metal into said wiring pattern recesses and via through holes; and

(e) polishing said metal film formed on said second resin layer to remove the same except for inside regions of said wiring pattern recesses and via through holes, so

that wiring pattern and vias are exposed on a surface same as that of said second resin layer.

13.(New) A process as set forth in claim 12 further comprising the following steps of:

repeating said steps (b) to (e) to obtain a multi-layer wiring board comprising a third or subsequent resin layer(s).

14.(New) A process for manufacturing a wiring board, said process comprising the following steps of:

molding a resin plate to form wiring pattern recesses and via through holes on said resin plate;

coating all of the surfaces of the resin plate including inner walls of said wiring pattern recesses and via through holes with a metal film;

electro-plating using said metal film as a power supply layer over an entire surface of said metal film so as to fill a plated metal into said wiring pattern recesses and via through holes; and

polishing said plated metal formed on said resin plate to remove the same except for inside regions of said wiring pattern recesses and via through holes, so that wiring pattern and vias are exposed on a surface same as that of said resin plate.